

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
16 October 2003 (16.10.2003)

PCT

(10) International Publication Number
WO 03/085087 A2(51) International Patent Classification⁷: C12N

(US). GREENHALGH, Trish [GB/—]; 5 Balsam Drive, Bedford, MA 01730 (US).

(21) International Application Number: PCT/US03/10916

(74) Agent: HALLORAN, Patrick, J.; Aventis Pasteur, Discovery Drive, Knerr Building, Swiftwater, PA 18370 (US).

(22) International Filing Date: 9 April 2003 (09.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/372,972 9 April 2002 (09.04.2002) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.(71) Applicants (*for all designated States except US*): AVENTIS PASTEUR, LIMITED [CA/CA]; 1755 Steeles Avenue, North York, Ontario M2R 3T4 (CA). THERION BIOLOGICS, INC. [US/US]; 76 Rodgers St, Cambridge, MA 02142 (US).(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(72) Inventors; and

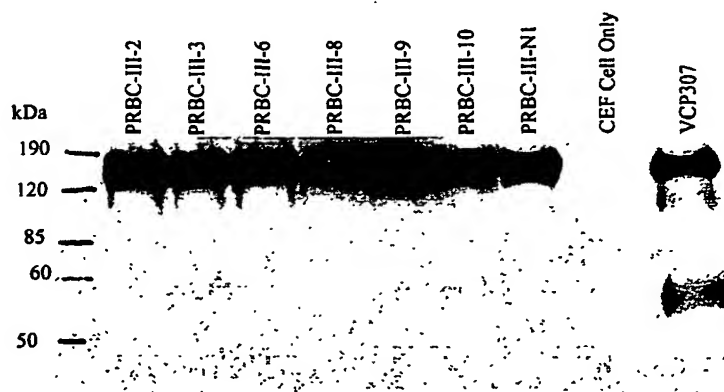
(75) Inventors/Applicants (*for US only*): PARRINGTON, Mark [CA/CA]; 1755 Steeles Avenue, North York, Ontario M2R 3T4 (CA). ZHANG, Linong [CA/CA]; 1755 Steeles Avenue, North York, Ontario M2R 3T4 (CA). ROVINSKI, Beni [CA/CA]; 100 International Blvd, Toronto, Ontario M9W 6J6 (CA). GRITZ, Linda, R. [US/US]; 3 Emerson Street, Somerville, MA 02143

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MODIFIED CEA NUCLEIC ACID AND EXPRESSION VECTORS



(57) Abstract: The present invention relates to a nucleic acid encoding a polypeptide and the use of the nucleic acid or polypeptide in preventing and / or treating cancer. The invention relates to improved vectors for the insertion and expression of foreign genes encoding tumor antigens for use in immunotherapeutic treatment of cancer. One such foreign DNA sequence is modified CEA nucleic acid.